

REMARKS

Claims 19-25, 30-31 and 45-65 are in this case for consideration. Claims 19-25 and 30-31 have been amended to better define Applicants' invention, including recitation of Applicants' available credit embodiments. Disclosure in Applicants' specification which supports these available credit embodiments may be found, among other places, at page 2, lines 8-13 and page 3, lines 11-16. New claims 45-65 have been added to more fully claim Applicants' mobile telephone system. These claims are similar to claims 26-46 in Applicants' U.S. Patent No. 6,198,915 B1, but now include explicit reference to Applicants' available credit embodiments. A "Version with Marking To Show Changes Made" is presented on a separate sheet at the conclusion of this Amendment.

A. Formal Matters

The title has been objected to as being non-descriptive. To overcome this basis of objection, the title has been amended to mention two of the distinctive features of Applicants' invention.

The Examiner has inquired about whether the subject matter of the various claims was commonly owned at the time the inventions were made. In response, Applicants can confirm that the claimed subject matter was commonly owned by assignee Telemac at the time the inventions were made.

B. Prior Art Rejections

1. The Invention

Applicants have invented a telephone system wherein each telephone in the system has an account with a representation of prepaid funds or available credit programmed into the telephone's memory and accounting software also programmed into the telephone's memory to calculate call charges for selected categories of phone calls, such as local, long distance, roaming and international. There is also one or more remotely accessible system provider host processors which, during direct

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communications with the telephone or its user, can exchange telephone unit identification information and corresponding operating codes to make or keep each telephone active.


2. The Cited Art Distinguished

Claims 11-15 and 18 have been rejected under 35 U.S.C. § 103(a) as being "obvious" over Ortiz et al.'s U.S. Patent No. 5,361,297 ("Ortiz patent") in view of Hattori et al.'s U.S. Patent No. 5,109,401 ("Hattori patent"). Claims 16-17 and 19-31 have been rejected as being "obvious" over Anritsu's Japanese Patent Application No. 3-45031 ("Anritsu '031 application") in view of the Ortiz patent.

The Ortiz patent discloses a call supervision system for detecting completion of national and international calls. Additionally disclosed is an autonomous pay telephone arrangement including a billing system for calculating call charges for immediate payment. A CPU control board memory stores billing rates for services to be provided such as local, long distance, incoming and outgoing pre-charges for calculating a call charge.

The Hattori patent discloses a user controlled account reference for apprising the user of call charges made. While a communication session can be established between Hattori's phone and the carrier, it is for the purpose of allowing the carrier to advise the phone of an applicable rate for each call, not for programming or activating the phone.

The Anritsu '031 application discloses a portable telephone handset having information storage means for storing call charge units, the value of which corresponds to the amount of payment made for purchase or rental of the phone. The units are reduced each time a billing signal is received from a base station during a call. The billing signal is received per a timing interval corresponding to a line distance based on an area identification. The handset is deactivated when the units are depleted. The reference mentions, in an alternative embodiment, a billing rate table, in which rates are based on regions, that a clock can be incorporated into a portable handset and that the handset can perform the same billing registration and calculation processes as when billing signals



were received from a base station. No implementation of this alternative embodiment is described.

On the issue of "obviousness," the Patent Office bears the burden of establishing a case of *prima facie* obviousness. *In re Fine*, 837 F.2d 1071, 1074 (Fed.Cir. 1988). To determine whether or not the claimed subject matter can properly be viewed as being "obvious" under 35 U.S.C. § 103, "the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved....Such secondary considerations as commercial success, long felt but unsolved need, failure of others, etc. might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 694, 15 L.Ed.2d 545 (1966). In order to properly combine references for an obviousness determination, there must be a suggestion or motivation in the references to make such a combination. *In re Gordon*, 733 F.2d 900, 902 (Fed.Cir. 1984)("The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification"). With these legal principles in mind, the merits of the obviousness rejections will now be addressed.

Applicants submit that none of the cited prior art references, either alone or in combination, disclose two important features of Applicants' claimed inventions:

(i) Host Processor Coordination Of Accounts

An important distinguishing feature for all of Applicants' pending claims is using one or more host processors having stored telephone identification information and corresponding operating codes to run a debit or credit limit telephone system. In Applicants' claimed invention, the system provider is able to keep tight control over a nationwide or worldwide debit or credit limit telephone system by setting up one or more host processors at a centralized location(s) which is capable of being remotely accessed by the telephone or its user to make or keep the telephone active. This host processor stores identification information (e.g., ESN) about telephones in the system to allow the

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host processor(s) to verify the identity of the telephone unit seeking operating code information. Once this identity has been checked and entitlement to operating code information established (e.g., by proving payment or creditworthiness for airtime), specific operating codes can be retrieved from the host processor's memory which are appropriate to make or keep that particular telephone active and then those codes can be conveyed to the telephone or its user.

None of the cited references come close to disclosing this sort of host processor coordination. For example, while the Ortiz patent discloses that a CPU control board 9 can be connected to a "PC computer" for uploading "bill rates and tariffs" and downloading details of calls made, there is no disclosure that this PC computer is involved in any way in activating the phone, assigning a working telephone number or establishing an account with a representation of prepaid funds or available credit. Similarly, there is no suggestion that this PC computer would have identification information for the phones or operating codes to make or keep a particular phone active. Of course, since Ortiz's PC computer must be "plugged into" Ortiz's CPU control board, this arrangement precludes the type of remote communications to make and keep debit or credit telephones active which are such a useful part of Applicants' system.

In the case of the Hattori patent, while the Hattori radio telecommunication apparatus can retrieve a charge rate for each particular phone call (i.e., an "advice of charge" system), Applicants find no disclosure of using one or more remote host processors to store mobile telephone unit identification information, activate the telephone, assign a working telephone number or establish an account with a representation of prepaid funds or available credit. Indeed, in the Hattori patent, it is the user himself that establishes a non-binding credit limit, without any input from a system provider host processor (see, col. 5, lns. 18-23).

While the Anritsu '031 application states that a disabled portable handset can be reactivated "by paying call charges at a designated agency, which will update the call charge unit information and recharge the battery," there is no teaching in the Anritsu '031 application that this process in any way involves a host processor, much less a host

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processor which stores identification information for telephones in the system and corresponding operating codes. It is quite reasonable to infer that the "designated agency" is simply a retail counter where the customer hands over cash to an attendant and watches the attendant punch in a series of airtime replenishment numbers into the telephone while the battery is recharging. In contrast to Applicants' invention, where the host processor can be remotely contacted over the airways, Anritsu's approach is ill-suited for a nationwide or worldwide debit or credit limit phone system because the "designated agency" may not be easily accessible to the telephone user and the distribution of funding or credit limit codes to the "designated agency" is prone to fraud. Moreover, the Anritsu '031 application says nothing about how the telephones are activated. For example, in contrast to Applicants' invention, there is no suggestion in the Anritsu '031 application that a generic debit or credit limit telephone can be offered for sale anywhere in the world and then remotely activated in a communication session with the system provider's host processor(s) to, among other things, assign a working phone number (i.e., MIN) appropriate to the user's locale.

(ii) Handset Based Billing Algorithm

Another distinguishing feature of the pending claims in Applicants' debit or credit limit telephone system invention is having a billing algorithm in the handset itself which can classify phone calls into categories, such as local, long distance, roaming and/or international, select a charge rate appropriate for that category, calculate call charges using that charge rate and apply the calculated charges in real time. While these types of call charge categorizations and calculations have been previously done in mainframe computers located at the system provider's switch, Applicants were the first to create a handset based billing algorithm which could both perform these complex billing calculations and apply their results in real time to a handset based debit or credit limit account.


Turning first to the Ortiz patent, while the Ortiz patent mentions use of a billing algorithm with these categories, Ortiz teaches that such a billing algorithm should

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be programmed into a "cabinet 15" which houses a CPU control board 9 (col. 13, lns. 29-53; Fig. 6). As such, Ortiz teaches that the billing algorithm must be housed in a computer which is *separate* from the telephone handset.

The Hattori patent is directed to a switch *dependent* "advise of charge" system which strongly teaches away from Applicants' invention. In the Hattori system, the various billing rates are stored at the carrier's switch, not in the user's telephone handset as in the present invention. When the user wants to make a call, a preceding call is made to the carrier's switch to retrieve the rate which would be applicable to the proposed phone call. As compared with Applicants' system, the Hattori system requires extra phone calls to retrieve "advice of charge" information which unnecessarily adds to the carrier's cost of operating the telephone system and unnecessarily delays the placement of the user's desired phone call.

The Anritsu '031 patent application cryptically discloses (in an alternative embodiment) that "a billing rate table in which rates are based on the regions and a clock can be prepared in a portable handset" (page 8). There is no teaching or suggestion in the Anritsu '031 patent application, though, that such a "billing rate table" would, in any way, involve classification into specific billing rate categories such as local, long distance, roaming and/or international. Moreover, unlike the present application, Anritsu fails to even hint to those skilled in the art how an algorithm could be programmed into a cellular telephone handset to differentiate among the categories of local, long distance, roaming and international calls. Indeed, in view of the description of Anritsu's preferred "billing signal" embodiment, where the applied charges correspond to "the line distance based on the area identification," what is suggested by Anritsu's alternative embodiment is a rate table akin to the mileage charts commonly found on road maps in which one looks for the intersection of the city "X" row with the city "Y" column to find out the mileage between the two cities and thus, in Anritsu's case, the applicable "line distance" rate. In keeping with the sparseness of its disclosure, the Anritsu '031 patent application fails to even explain how such a mileage chart form of billing rate table could be programmed into the limited memory of a cellular telephone.



Since none of the cited references disclose either the host processor coordination or handset based billing algorithm features of Applicants' inventions, either alone or in combination, these references plainly cannot be combined in the manner suggested by the Examiner (or in any other manner) to render Applicants' inventions as being "obvious" under 35 U.S.C. § 103.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (415) 576-0200.

Respectfully submitted,



Guy W. Chambers
Reg. No. 30,617

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: 415-576-0200
Fax: (415) 576-0300



VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

MOBILE PHONE SYSTEM WITH HOST PROCESSOR
COORDINATION AND INTERNAL MOBILE PHONE ACCOUNTING
CAPABILITIES

IN THE CLAIMS:

19. (Amended) Software for a [debit] telephone system comprising:
internal accounting software for a cordless hand-held mobile telephone unit to establish an [debit] account with a representation of prepaid funds or available credit, to store a plurality of charge rates and to store [create] a billing algorithm which can classify each telephone call into one of a plurality of billing categories, select a charge rate corresponding to that billing category, calculate an appropriate charge for that telephone call in real time by using said selected charge rate and apply [subtract] this appropriate charge to [from] said [debit] account; and

software for one or more [a] system provider[']s host processors which stores mobile telephone unit identification information, stores operating codes needed for mobile phone unit activation and stores operating codes needed for setting prepaid funds or available credit amounts in [replenishing] mobile phone unit [debit] accounts whereby, upon receipt of mobile telephone unit identification information from a particular mobile phone unit or its user, said host processor software is capable of ascertaining the operating codes needed to activate that particular mobile phone unit, [or] to set [replenish] its [debit] account amount.

20. (Amended) The [debit] telephone system software of claim 19 wherein the internal accounting software for said cordless handheld mobile telephone can ascertain whether a telephone call being dialed belongs to a long distance call category.

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21. (Amended) The [debit] telephone system software of claim 19 wherein the internal accounting software for said cordless handheld mobile telephone can ascertain whether a telephone call being dialed belongs to a local call category.

22. (Amended) The [debit] telephone system software of claim 19 wherein the internal accounting software for said cordless handheld mobile telephone can ascertain whether a telephone call being dialed belongs to a roaming call category.

23. (Amended) The [debit] telephone system software of claim 19 wherein the internal accounting software for said cordless handheld mobile telephone can ascertain whether a telephone call being dialed belongs to an international call category.

24. (Amended) The [debit] telephone system software of claim 19 wherein the internal accounting software for said cordless handheld mobile telephone will prevent further telephone calls from being made if there are insufficient prepaid funds or available credit to initiate the next telephone call [no remaining funds in the debit account].

25. (Amended) Software for a [debit] telephone system comprising:
internal accounting software for a cordless hand-held mobile telephone unit to establish an [debit] account with a representation of prepaid funds or available credit, to store a plurality of charge rates and to store [create] a billing algorithm which can classify each telephone call into one of a plurality of billing categories including categories for local, long distance and roaming telephone calls, select a charge rate corresponding to that billing category, calculate an appropriate charge for that telephone call in real time by using said selected charge rate and applying [subtract] this appropriate charge to [from] said [debit] account; and



software for one or more [a] system provider[']s] host processors which stores mobile telephone unit identification information, stores assignable telephone numbers, stores operating codes needed for mobile phone unit activation and stores operating codes needed for setting prepaid funds or available credit amounts in [replenishing] mobile phone unit [debit] accounts whereby, upon receipt of mobile phone unit identification information from a particular mobile phone unit or its user, said host processor software is capable of ascertaining the operating codes needed to activate that particular mobile phone unit, to set [replenish] its [debit] account amount or to select an assignable telephone number corresponding to the user's locale.

30. A mobile [debit] telephone unit operating within a [debit] telephone system comprising:

a transmitter, a receiver, a processor, memory and internal accounting software, wherein said internal accounting software includes an [debit] account with a representation of prepaid funds or available credit, a plurality of charge rates, memory allocation for a phone number to be assigned at the time of activation, coding to allow the telephone unit to accept and implement operating codes generated by one or more system provider host processors and a billing algorithm which can classify each telephone call into one of a plurality of billing categories including billing categories for local calls, long distance calls and roaming calls, select a charge rate corresponding to that billing category, calculate an appropriate charge for that telephone call in real time by using said selected charge rate and apply [subtract] this appropriate charge to [from] said [debit] account amount.

31. (Amended) The mobile [debit] telephone of claim 30 wherein said operating codes are encrypted.